

ABSTRACT

5 A silicon wafer having a distributed Bragg reflector buried
within it. The buried reflector provides a high efficiency,
readily and accurately manufactured reflector with a body of
silicon. A photodetector using the buried layer to form a
resonant cavity enhancement of the silicon's basic quantum
efficiencies and selectivity is provided. The DBR is created by
bonding of two or more substrates together at a silicon oxide
10 interface or an oxide-oxide interface. In the former, an
hydrogen implant is used to cleave silicon just above the bond
line. In the latter, the bonding is at the oxide layers.

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